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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/021,608	12/11/2001	Jong-Kill Lim	5484-85	7236
7590	03/18/2004		EXAMINER	
MARGER JOHNSON & McCOLLOM, P.C.			NGUYEN, HUNG	
1030 S.W. Morrison Street			ART UNIT	PAPER NUMBER
Portland, OR 97205			2851	

DATE MAILED: 03/18/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/021,608

Applicant(s)

LIM, JONG-KILL

Examiner

Hung Henry V Nguyen

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 04 March 2004.
2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-11 is/are pending in the application.
4a) Of the above claim(s) _____ is/are withdrawn from consideration.
5) ☒ Claim(s) 1-4 is/are allowed.
6) ☒ Claim(s) 5-11 is/are rejected.
7) ☐ Claim(s) _____ is/are objected to.
8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on March 4, 2004 has been entered.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 5-11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yoshioka et al (U.S.Pat. 6,051,349).

As to claims 5-11, Yoshioka et al discloses an exposure control apparatus in a lithography system and corresponding method, comprising a resist coating and developing apparatus (1) and a wafer transferring mechanism (22) (see col.1, lines 15-25), a prebake unit, a post exposure bake and hard bake unit (see col.6, lines 3-36), and a CPU (45) for obtaining the temperature data of the post baking temperature unit or the developing solution temperature based on the line width of the resist film/pattern size, and a sensor (65) is disposed within the resist coating and developing unit to obtain the line width of the resist film (see col.14, lines 53-

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55). It is the Examiner's position that for the sake of simplicity, Yoshioka lacks to show "the optical system for exposing at least a portion of the resist film to a light source". These features are seen to be inherent teachings of an exposure apparatus and are well known per se and must be present for the exposure apparatus to function as intended. Thus, Yoshioka discloses substantially all of the limitations of the instant claims. Yoshioka does not expressly disclose determining the exposure time of the exposure control apparatus based on the resist film temperature data from the resist coating and developing apparatus. However, Yoshioka clearly teaches the relationship between the line width of the resist film and temperature data for resist coating and developing apparatus (see figs. 7-8, 10 and col.14, lines 50-52) and further teaches the information on the measurement of the line width is fed back so as **to control** at least one of the resist coating condition ...temperature of the resist solution...the light exposure conditions such as the **light exposure time** and the focal length, **the baking temperature** and the baking time" (see col.12, lines 44-54); Yoshioka suggested "the CPU 45 delivers a control command signal to each of the resist solution temperature controller 63, ...and a pre-baking temperature controller (not shown) so as to make optimum the parameters such as the temperature of the resist solution...and the pre-baking temperature before the resist coating step" or "the result of the line width measurement of the actual resist pattern from the resist coating developing system to the controller (not shown) of the light exposure device so as to permit the arithmetic operation **to obtain the value of correction of the various parameters to be carried out on the side of the light exposure device** (see col.15, lines 23-34). This provides a clear suggestion that it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the teachings of Yoshioka to obtain the invention as specified in the above claims. In

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view of Yoshioka's teachings, it would have been obvious to a skilled artisan to set a desired exposure time based on the resist film temperature data obtained from the coating and developing apparatus to thereby improve the quality of the images to be printed.

Allowable Subject Matter

4. Amended claims 1-4 are allowed.

Response to Amendment/Arguments

5. Applicant's amendment filed 3/4/04 have been entered. Claim 1 has been amended. In light of the amendment to claim 1, the arguments presented by the applicant in the remarks are deemed persuasive (for example, page 5, lines 14-17). Accordingly, claims 1-4 are allowed. With respect to claims 5-11, applicant's arguments have been carefully reviewed but they are not found persuasive. Claims 5-11 are remain rejected with the same reasons set forth in the previous office action.

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hung Henry V Nguyen whose telephone number is 571-272-2124. The examiner can normally be reached on Monday-Friday (First Friday off).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Russ Adams can be reached on 571-272-2112. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

hvn
3/13/04



HENRY HUNG NGUYEN
PRIMARY EXAMINER